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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/529,223	11/21/2005	Giacomo Gorni	05788.0348	2032
22852	7590	06/14/2007		
FINNEGAN, HENDERSON, FARABOW, GARRETT & DUNNER LLP 901 NEW YORK AVENUE, NW WASHINGTON, DC 20001-4413			EXAMINER WOOD, KEVIN S	
			ART UNIT 2874	PAPER NUMBER
			MAIL DATE 06/14/2007	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/529,223

Applicant(s)

GORNI ET AL.

Examiner

Kevin S. Wood

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 March 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 24-41 is/are pending in the application.
- 4a) Of the above claim(s) 42-46 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 24-27, 33 and 37 is/are rejected.
- 7) ☒ Claim(s) 28-32, 34-36, and 38-41 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 25 March 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.


KEVIN WOOD
PRIMARY PATENT EXAMINER

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 3/25/2005.

- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Election/Restrictions

1. Claims 42-46 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on 15 March 2007.
2. Applicant's election without traverse of Group I, claims 24-41 in the reply filed on 15 March 2007 is acknowledged.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

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5. Claims 24-27, 33 and 37 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent Application Publication No. 2002/0028040 to Tseng et al. in view of U.S. Patent Application Publication No. 2003/0031413 to Kimerling et al.

Referring to claims 24, 27 and 37, the Tseng et al. reference discloses an integrated optical device, comprising: a first and a second integrated waveguide (300) each comprising a core and a cladding, a section of the first waveguide and a section of the second waveguide being arranged so as to be in optical coupling relationship; and a first and second modulated refractive index structures (130), respectively formed along the first waveguide section and the second waveguide section, each modulated refractive index structure comprising at least one pair of regions having a first refractive index n_1 and, respectively, a second refractive index n_2 greater than the first, said regions being adjacent to each other along respective waveguide section, said regions comprising a portion of the respective waveguide section extending at least across the entire cross-section of the core of the respective waveguide section. See Fig. 6-9B of the Tseng et al. reference along with their respective portions of the specification. The Tseng et al. reference does not appear to specifically disclose that the percentage difference Δn between the first and second refractive index is greater than 1.5%. The Kimerling et al. reference discloses high index contrast waveguide gratings where the refractive index difference between the low index regions and the high index regions is greater than 0.3 (or a Δn of greater than 30%) . See the entire Kimerling et al. reference. The purpose of high index contrast gratings is it allows for more compact gratings which are useful in very small optical devices. Since both the Tseng et al.

reference and the Kimerling et al. reference are both from the same field of endeavor, the purpose disclosed by the Kimerling et al. reference would have been recognized within the pertinent art of Tseng et al. It would have been obvious to one having ordinary skill in the art at the time the invention was made to utilize the high index contrast gratings taught by Kimerling et al. within the device taught by Tseng et al., since it would allow for more compact gratings which would be useful within very small optical devices.

Referring to claim 25, the Kimerling et al. reference discloses that the refractive index difference between the low index regions and the high index regions is greater than 0.3 (or a Δn of greater than 30%). See the entire Kimerling et al. reference.

Referring to claim 26, the Kimerling et al. reference discloses that the refractive index difference between the low index regions and the high index regions is greater than 0.3 (or a Δn of greater than 30%). See the entire Kimerling et al. reference. The Kimerling et al. reference does not appear to specifically disclose that the percentage difference is greater than 50%. However, this appears to be a matter of finding a workable range for the percentage difference Δn . Generally, differences in ranges or amounts will not support the patentability of subject matter encompassed by the prior art unless there is evidence indicating such a range or amount is critical. "Where the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation." *In re Aller*, 220 F.2d 454, 456, 105 USPQ 233, 235 (CCPA 1955). It would have been obvious to one having ordinary skill in the art at the time the invention was made to utilize a high index contrast

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waveguide grating having a percentage difference a Δn of greater than 50%, because it would allow the size of the grating to be reduced in order for the grating to be utilized within a very small optical device.

Referring to claim 33 the Tseng et al. reference discloses that the coupled waveguide section (130) of the first and second waveguides (300) have a length such that an optical signal propagating through a first one of the two waveguides is substantially transferred to the second waveguide. See Fig. 6-9B of the Tseng et al. reference along with their respective portions of the specification.

Allowable Subject Matter

6. Claims 28-32, 34-36, and 38-41 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

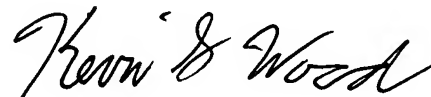
7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kevin S. Wood whose telephone number is (571) 272-2364. The examiner can normally be reached on Monday-Thursday (7am - 5:30 pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rodney B. Bovernick can be reached on (571) 272-2344. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

KSW

A handwritten signature in black ink that reads "Kevin Wood". The signature is written in a cursive, flowing style.

**KEVIN WOOD
PRIMARY PATENT EXAMINER**